

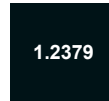
1.2379 X 153 CrMoV 12

AISI D2, BS BD2, AFNOR Z160CDV12

Cold work tool steel for the production of dimensionally stable high-performance cutting tools with good toughness and good wear resistance. 1.2379 is a ledeburitic 12% chromium steel that requires high-quality heat treatment. The hardening temperature is above 1000°C. In the hardened state, this material is very wear-resistant. TENASTEEL®®, Daido DCMX, and 1.2363 are offered as tougher and more machinable alternatives.

Color coding:

Black (1.2379).



1.2379 X 153 CrMoV 12	149
PräziPlan® – Precision Flat Steel	150
PräziPlan® – Hardened Plates	150
EcoPlan® – Precision Flat Steel	152
EroBlock®	154
VarioPlan®	155
VarioRond® – Ground Round Bars, Raw	156
Material	157
Steel Lexicon	158

WebShop:
www.stahlnetz.de

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GEBRÜDER
RECKNAGEL
Präzision in Stahl 149

1.2379 X 153 CrMoV 12

PräziPlan® - Precision flat steel
(according to DIN 59350)

Execution:

Annealed, Strength 700–800 MPa, Hardness max. 255 HB,
Thickness ground with Ra = 6 µm,
Width finely processed,
Machined on all sides without decarburization.

Tolerances:

width: +0.2 / -0mm
thickness: +0.2 / -0mm
length: +20.0 / -0mm

length: 500 mm price per piece

		thickness [mm]													
		2.2	3.2	4.2	5.2	6.2	8.2	10.4	12.4	15.4	20.4	25.4	30.4	40.4	50.4
width [mm]	10.3	10	11	12	13	15	18								
	15.3	11	12	13	15	16	19	20	22						
	20.3	12	13	14	16	18	20	22	24	26					
	25.3	13	14	16	18	20	22	24	26	30	31	39			
	30.3	14	16	18	20	22	24	26	30	35	42	47			
	40.3	16	18	20	22	25	29	30	33	41	51	55	64		
	50.3	18	20	23	25	29	31	33	37	46	58	67	78	99	
	60.3	20	22	27	29	31	33	37	43	54	65	77	92	111	119
	75.3	21	23	28	30	32	35	42	50	63	78	91	108	119	132
	80.3	22	25	30	33	35	37	46	52	65	81	94	113	123	132
	100.3	26	30	33	35	38	46	56	65	79	94	111	134	154	180
	125.3	31	34	37	39	46	53	66	78	94	117	142	172	188	219
	150.3	35	39	43	46	53	65	77	94	121	138	157	198	219	246
200.3	51	52	59	64	71	82	99	126	163	178	214	259	271	308	
250.3	56	63	71	81	87	101	120	164	194	212	261	313	334	369	
300.3	63	69	74	89	98	113	136	188	226	256	313	361	396	467	

square, length: 500 mm price per piece

		6.2	8.2	10.4	12.4	15.4	20.4	25.4	30.4	40.4	50.4
		15	16	18	22	27	36	50	67	93	130

We deliver special configurations quickly and affordably!

PräziPlan® - Hardened plates

Execution:

hardened to 56–58 HRC,
thickness grounded,
Width and length cut with laser
or water jet

Tolerances:

width: +10,00 / -0mm
thickness: +0,20 / -0mm
length: +10,00 / -0mm
flatness: 0,20 on 500mm

Hardened Plates: 250 x 500mm

		thickness [mm]													
		2.2	2.7	3.2	3.7	4.2	4.7	5.2	6.2	7.2	8.2	9.2	10.2	12.2	14.2
		134	140	151	156	174	180	206	210	217	229	273	284	318	349

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GEBRÜDER
RECKNAGEL
Präzision in Stahl

1.2379 X 153 CrMoV 12

PräziPlan® - Precision flat steel (according to DIN 59350)

length: 1,000 mm

price per piece

Execution:
Annealed, Strength 700–800 MPa, Hardness max. 255 HB, Thickness ground with Ra = 6 µm, Width finely processed, machined on all sides without decarburization.

Tolerances:

width: +0.2 / -0mm
thickness: +0.2 / -0mm
length: +40.0 / -0mm

		thickness [mm]																									
		2.2	3.2	4.2	5.2	6.2	8.2	10.4	12.4	15.4	16.4	20.4	25.4	26.4	30.4	32.4	36.4	40.4	46.4	50.4	60.4	63.4	70.4	80.4	90.4	100.4	
width [mm]	10.3	21	22	23	24	25	28																				
	15.3	22	23	24	26	27	29	32	36																		
	20.3	23	24	25	27	28	30	33	37	41																	
	25.3	24	25	27	28	30	32	34	40	47	50	56															
	30.3	25	26	29	31	33	36	37	46	57	59	68	86														
	32.3	26	28	30	34	35	37	38	49	59	61	70	88	97													
	40.3	30	31	34	36	38	40	47	53	66	68	73	99	110	119												
	50.3	33	36	39	41	42	48	54	58	73	79	94	110	120	128	159											
	60.3	36	38	42	44	48	52	58	67	84	89	103	120	135	148	175	202										
	63.3	38	39	44	48	54	58	64	72	93	93	106	122	160	157	178	212										
	75.3	43	48	55	60	67	73	77	88	100	118	140	167	206	230	269	320										
	80.3	43	48	55	60	67	73	79	89	104	117	132	144	170	177	211	235	280	299	327							
	90.3	48	51	58	64	72	82	88	96	115	126	140	162	195	216	240	274	346	371	399	442						
	100.3	58	62	68	72	79	88	96	115	130	134	150	177	208	217	269	324	376	394	438	504	615					
	125.3	67	73	80	86	94	103	135	141	167	180	194	228	276	290	350	413	490	511	568	647	731	772				
	150.3	76	80	86	96	113	144	148	162	180	208	231	264	308	330	392	469	554	590	641	742	827	863				
	156.3													324		399	485										
	160.3	80	90	93	101	120	156	158	171	217	228	242	294	340	355	434	519	586	636	721	870	959	996				
	175.3	91	95	97	111	122	158	174	191	236	242	269	302	350	374	445	541	647	657	795	986	1028	1070				
	180.3	96	104	111	119	133	165	180	191	256	265	304	344	386	429	480	568	688	780	869	1007	1049	1102				
196.3													391		480	584											
200.3	99	107	115	126	140	170	196	221	261	287	330	378	438	463	521	647	759	811	928	1006	1071	1121					
246.3													464		590	709											
250.3	111	123	136	151	164	204	237	291	365	382	396	462	521	548	636	792	923	1007	1071	1141	1325	1455					
296.3													516		730	829											
300.3	132	146	161	178	192	221	296	342	412	421	459	542	615	640	761	940	1122	1219	1283	1444	1696	1772					
350.3							350	402	464	480	516	584	725	756	934	1049	1166										
400.3							396	459	527	542	574	647	824	897	1074	1251											

square, length: 1,000 mm

price per piece

	8.4	10.4	12.4	15.4	16.4	20.4	25.4	30.4	32.4	40.4	50.4	60.4	63.4	70.4	80.4	90.4	100.4	120.4	150.4	200.4	250.4	300.4
	33	33	38	42	45	49	77	95	103	126	182	228	263	329	399	553	580	829	1115	2074	3095	4070

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GEBRÜDER RECKNAGEL
Präzision in Stahl

151

1.2379 X 153 CrMoV 12

EcoPlan® 150 / 200 / 300 - Precision flat steel (according to DIN 59350) in cost-effective short lengths

Execution:

Annealed, Strength 700–800 MPa, Hardness max. 255 HB, precision-machined without decarburization on all sides, including length.

Tolerances:

width: +0.2 / -0 mm
thickness: +0.2 / -0 mm
length: +0.4 / -0 mm

length: 150.3 mm

price per piece

		thickness [mm]								
		8.4	10.4	12.4	15.4	20.4	25.4	30.4	40.4	50.4
width [mm]	150									
	20.3	9	10	11	12	13				
	25.3	10	11	11	13	15	19			
	30.3	11	12	12	14	16	22	23		
	40.3	12	13	13	16	19	25	27	31	
	50.3	13	13	14	19	24	27	29	40	45
	60.3	14	14	16	21	26	30	33	43	50
	80.3	19	20	22	25	30	35	42	47	58
	100.3	22	24	29	26	32	34	43	51	59
	120.3	26	34	35	34	37	41	52	66	77
150.3	35	39	41	42	42	48	57	73	86	

length: 200.3 mm

price per piece

		thickness [mm]								
		15.4	20.4	25.4	30.4	40.4	50.4	60.4	80.4	100.4
width [mm]	200									
	100.3	29	36	47	58	68	80	93	126	144
	150.3	42	57	66	77	97	115	136	184	215
200.3	65	82	95	110	129	157	188	251	282	

length: 300.3 mm

price per piece

		thickness [mm]								
		15.4	20.4	25.4	30.4	40.4	50.4	60.4	80.4	100.4
width [mm]	300									
	100.3	41	48	58	68	86	106	121	167	188
	150.3	58	76	86	101	126	154	183	244	284
	200.3	85	105	123	142	167	211	251	334	367
	250.3	118	128	148	171	205	259	303	357	407
300.3	134	148	178	198	245	308	365	475	521	

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GEBRÜDER RECKNAGEL
Präzision in Stahl

1.2379

1.2379

1.2379 X 153 CrMoV 12

EcoPlan® 400 / 600 / 800 - Precision flat steel
(according to DIN 59350) In cost-effective short lengths

Execution:

Annealed, Strength 700–800 MPa,
Hardness max. 255 HB, precision-
machined without decarburization on all
sides, including length.

Tolerances:

width: +0.2 / -0 mm
thickness: +0.2 / -0 mm
length: +0.4 / -0 mm

length: 400.3 mm

price per piece

400		thickness [mm]												
		8.4	10.4	12.4	15.4	20.4	25.4	30.4	40.4	50.4	60.4	80.4	100.4	
width [mm]	20.3	17	19	20	21	25								
	25.3	19	20	22	23	27	33							
	30.3	20	22	24	25	30	39	42						
	40.3	22	24	26	29	34	44	48	56					
	50.3	24	27	29	32	42	48	52	70	81				
	60.3	26	29	32	38	46	53	60	77	90	102			
	80.3	33	34	40	45	53	63	76	94	104	126	167		
	100.3	40	43	51	57	68	79	89	120	144	167	228	263	
	120.3	47	62	64	77	92	107	120	160	194	215	307	351	
	150.3	64	66	73	80	105	120	136	178	214	251	339	391	
	200.3	77	87	99	117	146	169	192	235	292	344	459	506	
	250.3	91	106	130	145	178	209	240	282	355	417	469	521	
	300.3	99	133	154	166	209	251	292	355	417	501	605	700	
	400.3	147	158	205	209	297	339	396	469	574	678	779	823	

length: 600.3 mm

price per piece

600		thickness [mm]								
		15.4	20.4	25.4	30.4	40.4	50.4	60.4	80.4	100.4
width [mm]	100.3	77	94	113	134	169	209	240	330	388
	150.3	115	140	169	198	248	303	344	449	542
	200.3	163	188	230	261	330	401	464	605	678
	250.3	190	240	282	332	424	511	605	709	782
	300.3	220	271	324	376	469	579	673	792	917
	400.3	297	365	428	490	615	751	891	987	1213
	500.3	357	387	462	523	666	782	930	1216	1497

length: 800.3 mm

price per piece

800		thickness [mm]											
		8.4	10.4	12.4	15.4	20.4	25.4	30.4	40.4	50.4	60.4	80.4	100.4
width [mm]	80.3	60	67	75	81	104	128	135	173	202	232	311	
	100.3	70	78	92	102	127	151	164	214	254	293	368	443
	120.3	83	110	115	136	157	182	200	254	290	337	426	514
	150.3	114	117	129	141	183	209	232	299	344	401	511	621
	200.3	136	156	176	208	226	271	299	374	433	509	656	799
	250.3	162	189	232	252	265	324	374	449	522	616	799	978
	300.3	176	236	275	288	314	378	433	539	611	724	942	1156
	400.3	291	312	351	361	413	491	567	695	790	940	1228	1512
	500.3	341	373	422	434	508	609	682	871	980	1156	1515	1868
	600.3	411	433	492	506	603	731	814	1021	1222	1371	1801	2225

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GEBRÜDER RECKNAGEL 
Präzision in Stahl

1.2379 X 153 CrMoV 12

EroBlock®

Erosion blocks with a guaranteed
vertical fiber direction.

Execution and Tolerances:

Width + Length: Precision milled +0.5 / -0mm

Thickness: Top Line (white):

Annealed, +0.8 / +0.5 mm,
precision-milled or ground.

Thickness: Bottom Line (gray):

Hardened, +0.5 / -0 mm, grounded,
vacuum-hardened, 59–63 HRC,
multiple tempering, low retained austenite.

Thickness ground
after hardening!

Stock and special dimensions available
with starter hole boring upon request.
Special dimensions and alternative
materials available upon short notice.

price per piece

		square [mm]								
		55.0	65.0	75.0	85.0	95.0	120.0	150.0	200.0	250.0
thickness [mm]	15.0	31	34	37	39	42	47	59	84	115
	15.0	39	44	53	50	59	66	79	126	157
	20.0	32	35	42	40	47	53	65	94	131
	20.0	42	47	59	52	67	76	94	136	183
	25.0	33	37	47	42	53	58	73	105	146
	25.0	45	50	65	56	76	85	105	146	209
	30.0	35	40	53	48	58	63	84	120	178
	30.0	50	56	71	62	84	94	110	157	225
	40.0	42	48	58	59	63	73	99	131	209
	40.0	58	66	81	78	94	115	131	188	266
	50.0	49	57	65	69	73	94	120	157	240
	50.0	68	78	90	97	105	131	146	219	318
	60.0	56	64	73	80	84	115	136	183	271
	60.0	75	87	99	110	115	146	178	251	376
	70.0	63	72	83	88	92	126	152	209	297
	70.0	84	95	110	118	123	162	198	287	433
	80.0	70	81	92	96	101	136	167	225	324
	80.0	91	104	120	126	132	178	219	324	490
85.0	73	84	96	101	106	141	174	224	336	
85.0	94	108	124	132	136	183	229	342	510	
90.0	76	87	101	107	111	146	183	240	350	
90.0	97	112	129	136	140	188	240	360	532	
100.0	81	93	107	113	117	157	193	256	376	
100.0	102	118	136	144	148	204	261	396	574	
120.0	87	100	115	125	130	178	219	287	423	
120.0	115	132	152	167	172	235	292	438	636	
150.0	102	118	136	151	157	198	261	334	490	
150.0	134	153	178	198	204	271	334	490	719	

annealed
hardened

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GEBRÜDER RECKNAGEL 
Präzision in Stahl

1.2379

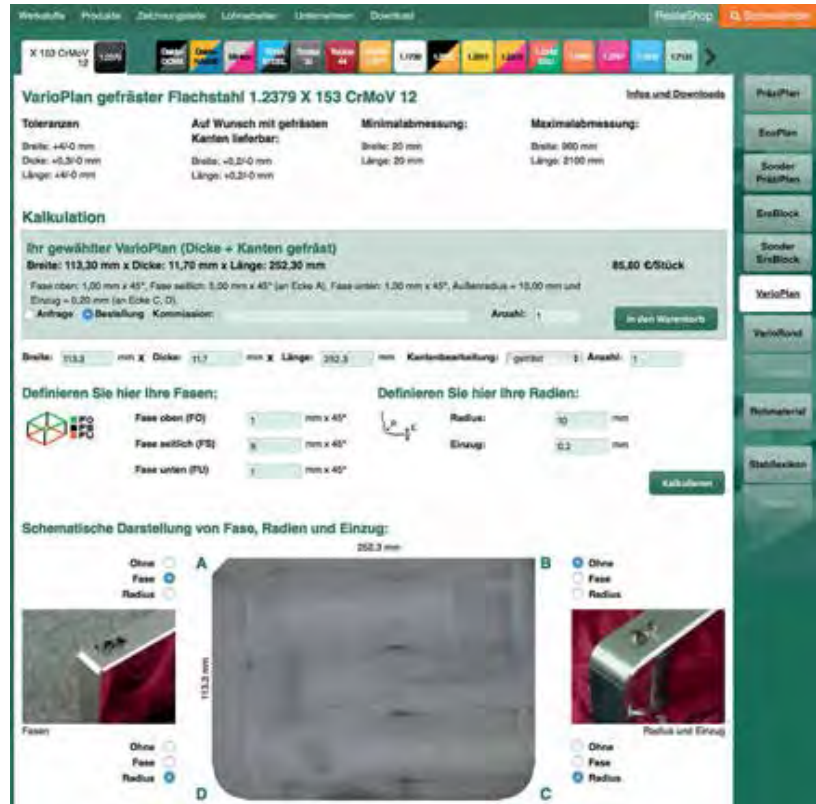
1.2379

1.2379 X 153 CrMoV 12

VarioPlan®
Precision-milled semi-finished products
in freely selectable dimensions.

- Flexible in width, thickness, and length
- Edges sawn or milled
- Available with chamfers and/or corner radii upon request
- Production in 2 to 3 days
- Easy calculation

Use our online calculation tool in the webshop:
www.varioplan.de



1.2379

WebShop:
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GEBRÜDER RECKNAGEL
Präzision in Stahl 155

1.2379 X 153 CrMoV 12

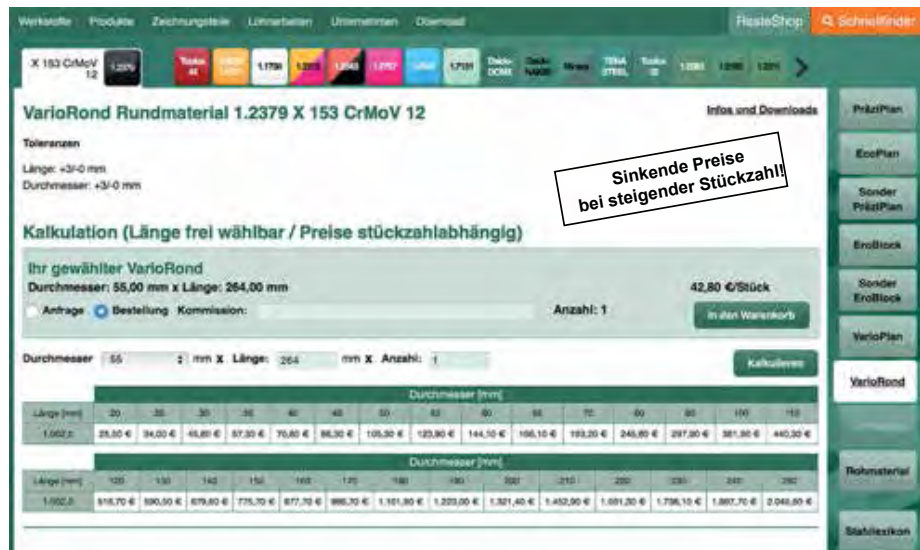
VarioRond®
Round material sections with
selectable length at a unit price.

Execution and Tolerances:
Length, sawn: +3.0 / -0 mm
Diameter: +3.0 / -0 mm
Diameter Range: 20–250 mm

Flexible online calculation:
www.variorond.de

1.2379

- Desired length is freely selectable.
- Unit prices for your desired length.
- Sawing costs included.
- No additional surcharges.



Round bars, ground

Tolerance:
diameter: h8
length: +30.0 / -0 mm

length: 1,000 mm price per piece

	diameter [mm]						
	6.0	8.0	10.0	12.0	15.0	20.0	25.0
	8	9	10	13	21	42	63

WebShop:
156 www.stahlnetz.de

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GEBRÜDER RECKNAGEL
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Raw material

Plates or cutouts thereof, hot-rolled according to EN 10029 Class C.

Larger thicknesses available upon request.

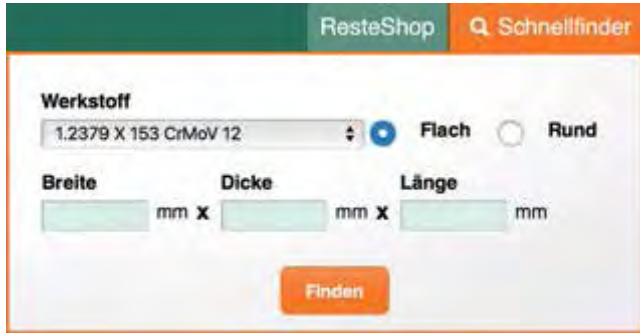
thickness [mm]												
2,8	3,9	4,9	5,9	6,9	9,0	11,3	13,4	16,6	20,0	22,4	25,0	
27,7	30,0	32,7	40,0	43,0	50,0	53,0	60,0	70,0	80,0	90,0	100,0	
110,0	120,0	130,0	140,0	150,0	160,0	170,0	180,0	200,0	225,0			

- We cut blanks according to your specifications.
- Pre-processed as VarioPlan® available.
- Flat bar stock is available on short notice.
- Round material is available as VarioRond®.

Choose affordable raw materials online, also available as cut-to-size:

www.ResteShop.de

Fast, clear, and transparent: Offcut shop and Quick finder at www.stahlnetz.de



Offcut shop

- All materials
- With cutting service
- Available from stock
- Affordable special prices for remnants
- While supplies last

Quick finder

- All products compared
- Your custom parts fully calculated
- Easy selection of the optimal solution

1.2379

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GEBRÜDER RECKNAGEL®
Präzision in Stahl 157

1.2379 X 153 CrMoV 12

chemical composition [%]

	C	Si	Mn	P	S	Cr	Mo	V
max.	1.60	0.6	0.6	0.03	0.03	13.0	1.0	1.0
min.	1.45	0.1	0.2			11.0	0.7	0.7

Cold work tool steel for the production of dimensionally stable high-performance cutting tools with good toughness and the highest wear resistance.

1.2379 is a ledeburitic 12% chromium steel that requires a very high-quality heat treatment. The hardening temperature is above 1020°C.

You can obtain this material from us in various forms:

- Precision flat steel (standard and custom dimensions)
- EcoPlan®
- EroBlock® (annealed or hardened)
- VarioPlan®
- VarioRond®
- Raw material blanks

We also provide 1.2379 customized to your specifications as machine components or fully heat-treated guide bars and machine knives.

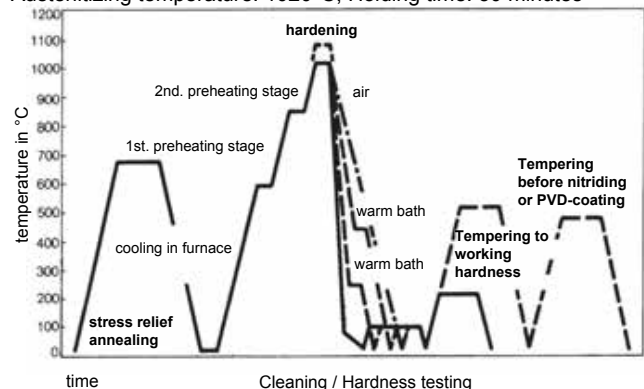
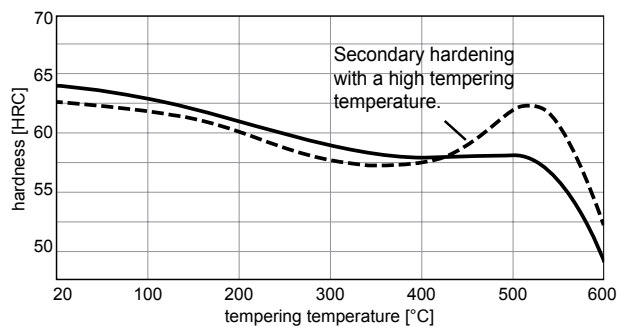
Color coding: Black

Heat treatment schedule:

Austenitizing temperature: 1020°C, Holding time: 30 minutes

In the hardened state, this material is well machinable with suitable tools due to its wear resistance.

Tempering chart:



1.2379

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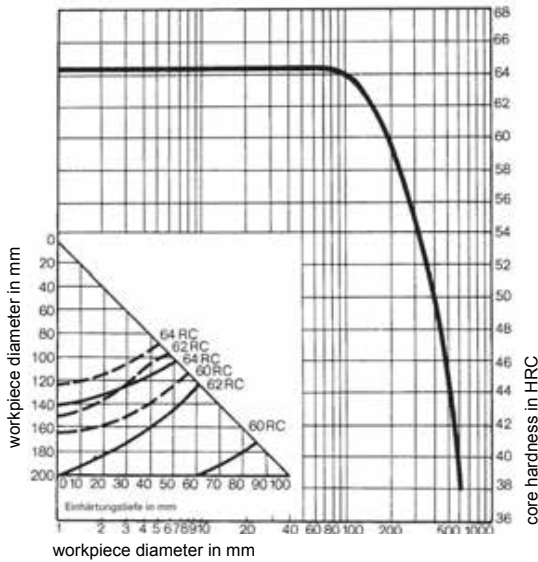
GEBRÜDER RECKNAGEL®
Präzision in Stahl

1.2379 X 153 CrMoV 12

chemical composition [%]

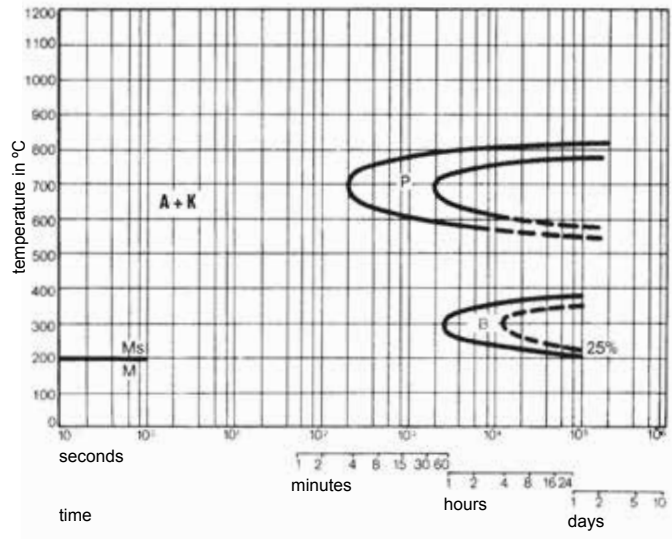
	C	Si	Mn	P	S	Cr	Mo	V
max.	1.60	0.6	0.6	0.03	0.03	13.0	1.0	1.0
min.	1.45	0.1	0.2			11.0	0.7	0.7

Dependency of core hardness and case depth on workpiece diameter.



hardening temperature: 1030°C
 hardening agent: — oil
 - - - air

Isothermal time-temperature transformation (TTT) diagram.



1.2379

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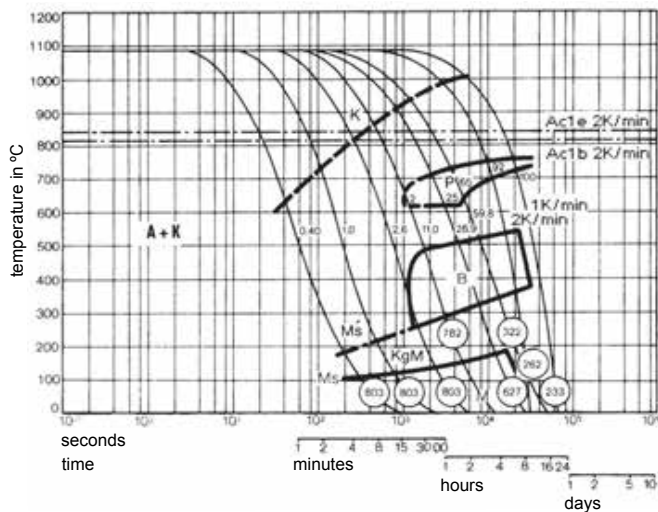
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1.2379 X 153 CrMoV 12

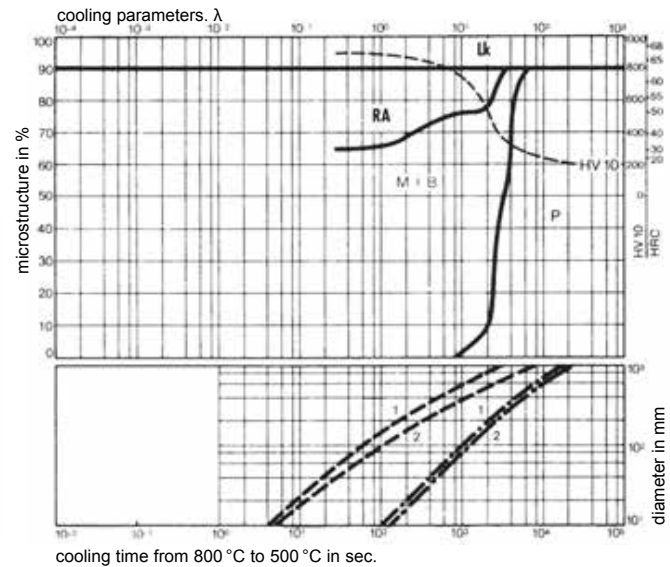
chemical composition [%]

	C	Si	Mn	P	S	Cr	Mo	V
max.	1.60	0.6	0.6	0.03	0.03	13.0	1.0	1.0
min.	1.45	0.1	0.2			11.0	0.7	0.7

Continuous cooling transformation (CCT) diagram
 austenitizing temperature: 1080°C, holding time: 30 minutes.



Microstructure diagram.



O hardness in HV
 2 . . . 100 microstructure proportions in %
 0.40 . . . 59.8 . cooling parameters i.e. cooling time from 800–500°C in s x 10⁻²
 2 . . . 1K/min .. cooling rate in K/min in the range from 800–500°C
 Ms'-Ms range of grain boundary martensite formation
 KgM grain boundary martensite

Lk Ledeburite carbide
 RA Retained austenite
 B Bainit
 P Pearlite
 K Carbide
 - - - oil cooling
 - · - air cooling
 1 workpiece edge
 2 workpiece center

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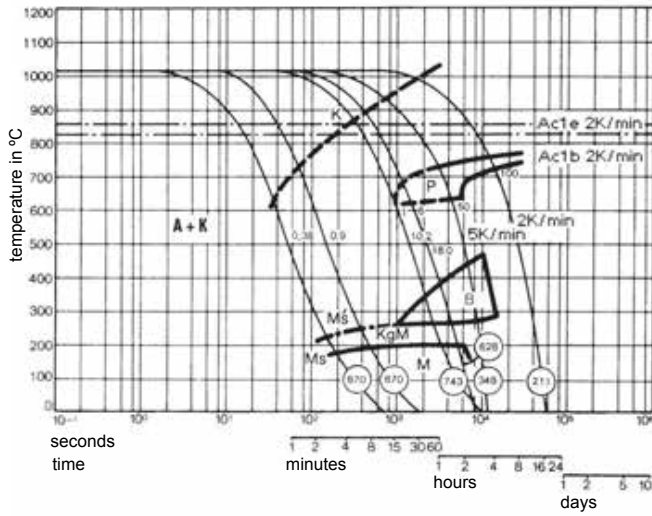
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1.2379 X 153 CrMoV 12

chemical composition [%]

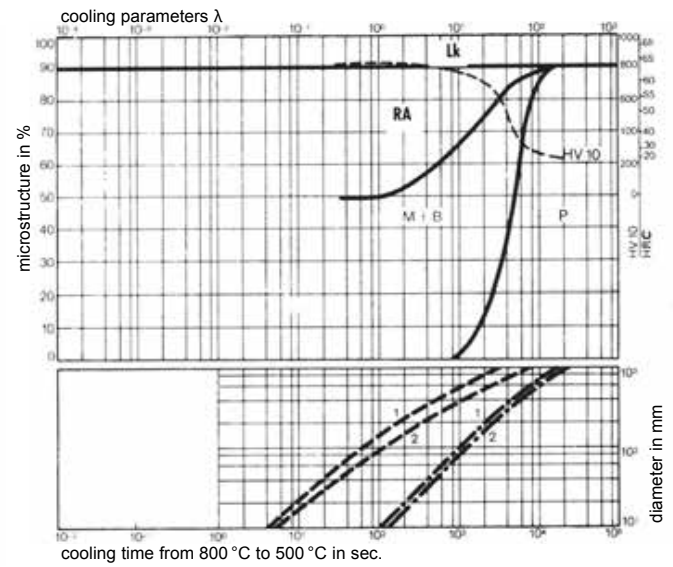
	C	Si	Mn	P	S	Cr	Mo	V
max.	1.60	0.6	0.6	0.03	0.03	13.0	1.0	1.0
min.	1.45	0.1	0.2			11.0	0.7	0.7

Continuous cooling transformation (CCT) diagram
 austenitizing temperature: 1020°C, holding time: 30 minutes.



- O hardness in HV
- 1 . . . 100 microstructure proportions in %
- 0.38 . . . 18 cooling parameters i.e. cooling time from 800–500°C in $s \times 10^{-2}$
- 5 . . . 2K/min .. cooling rate in K/min in the range from 800–500°C
- Ms'-Ms range of grain boundary martensite formation
- KgM grain boundary martensite

Microstructure diagram.



- Lk Ledeburite carbide
- RA Retained austenite
- B Bainit
- P Pearlite
- K Carbide
- oil cooling
- · - air cooling
- 1 workpiece edge
- 2 workpiece center

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